

OPERATING SUMMARY

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FENELON FALLS

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MINISTRY OF THE
ENVIRONMENT

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FENELON FALLS
WATER TREATMENT PLANT

operated for

THE VILLAGE OF FENELON FALLS

by the

MINISTRY OF THE ENVIRONMENT

1973 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

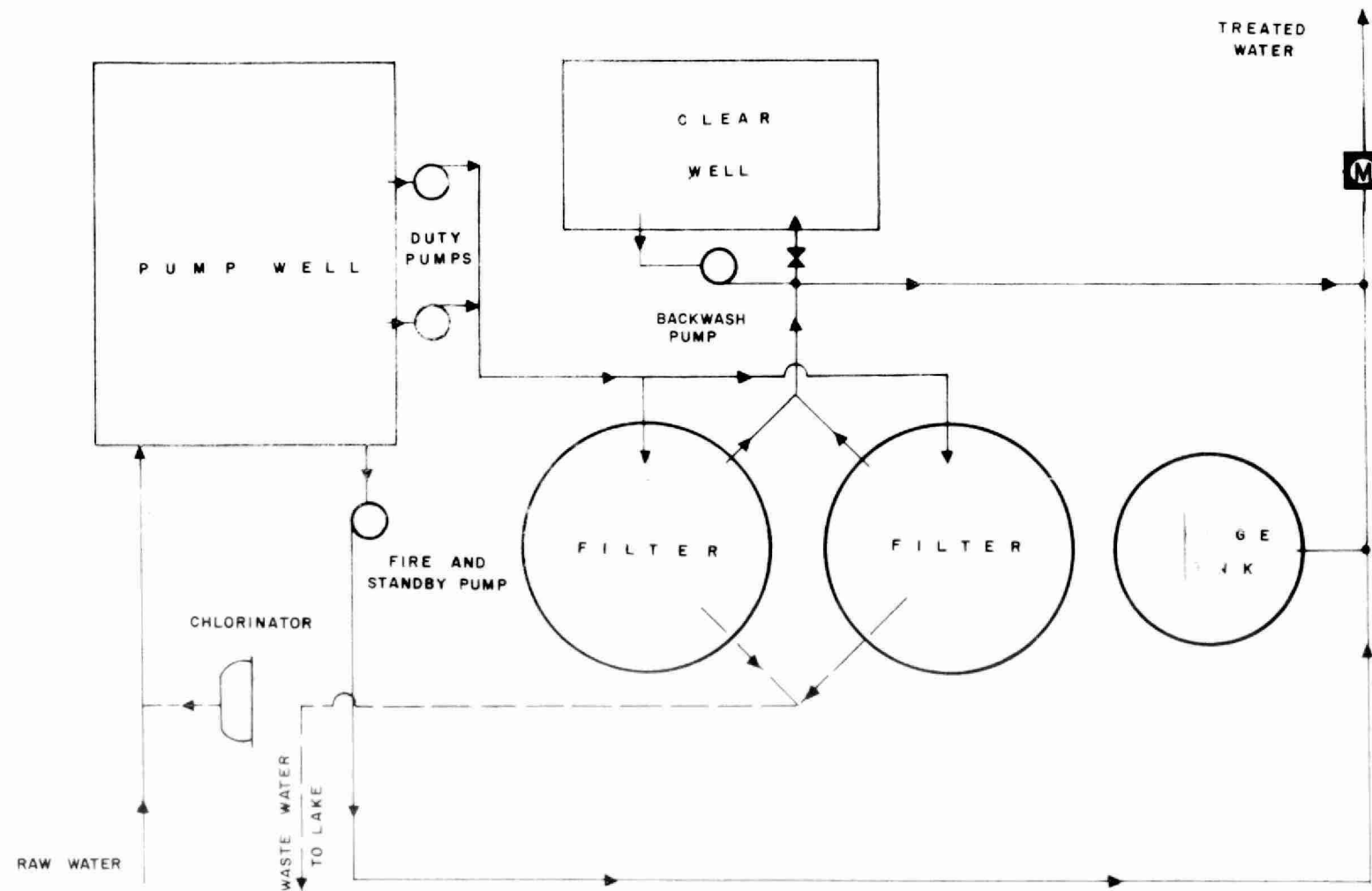
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VILLAGE OF FENELON FALLS WTP



DESIGN DATA

PROJECT Village of Fenelon Falls WTP
PROJECT NO. 6-0057-60
DESIGN FLOW 0.180 MGD
DESIGN POPULATION 1300

INTAKE

18" dia corrugated metal, 710 ft,
from Cameron Lake.
Max flow 835 gpm (1.2 mgd)

WET WELL

Size: 15' x 15' x 10.8' max depth
(14,000 gal)

CHLORINATION - in wet well

- Fischer & Porter C-1420
automatic proportioning chlorinator

DUTY PUMPS

Type: Allis-Chalmers double suction
centrifugal pumps, Model SJH
Capacity: Two 170 gpm @ 175' tdh
(490,000 gpd total)

STANDBY and FIRE PUMP

One Babcock-Wilcox & Goldie McCulloch
single-stage, double suction centrifugal
pump, driven by a Wisconsin engine,
model VR4D
Capacity: 835 gpm @ 15' TDH

FILTERS

Type: Infilco rapid sand pressure
filters
Capacity: Two 126 gpm (360,000 gpd
total)
Filter Rate: 2.5 gpm per sq ft @ 75 psi

CLEARWELL

Size: 15' x 5' 12.3' max depth
(5,800 gal)

BACKWASH PUMP

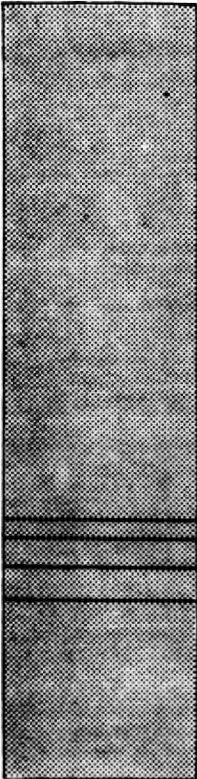
Type: Canada Pump single-section
centrifugal pump
Capacity: 510 gpm @ 40' tdh

SURGE TANK

One 2000 gal tank with a Brunner air
compressor, Model H30

ANNUAL COSTS

1973 OPERATING COSTS



● SALARIES & WAGES	67 %
● EMPLOYEE BENEFITS	2 %
● TRANSPORTATION & COMMUNICATIONS	4 %
● SERVICES	3 %
● SUPPLIES & EQUIPMENT	23 %
● ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS	NIL
● TRANSFER PAYMENTS	NIL
● OTHER TRANSACTIONS	NIL

YEARLY OPERATING COSTS

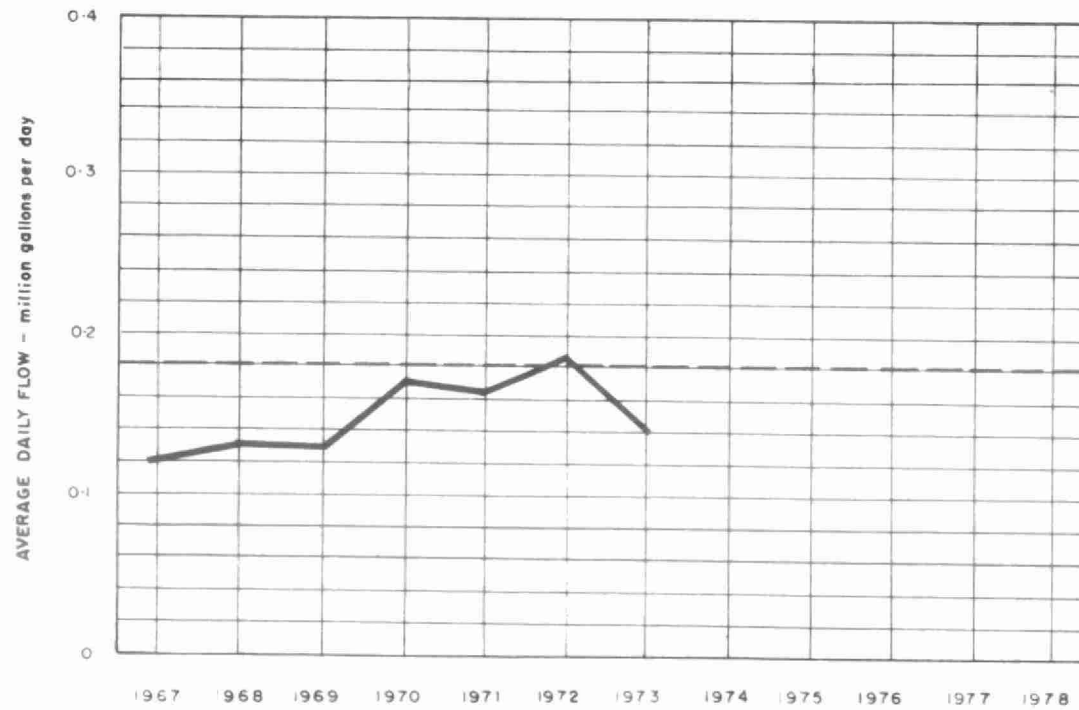
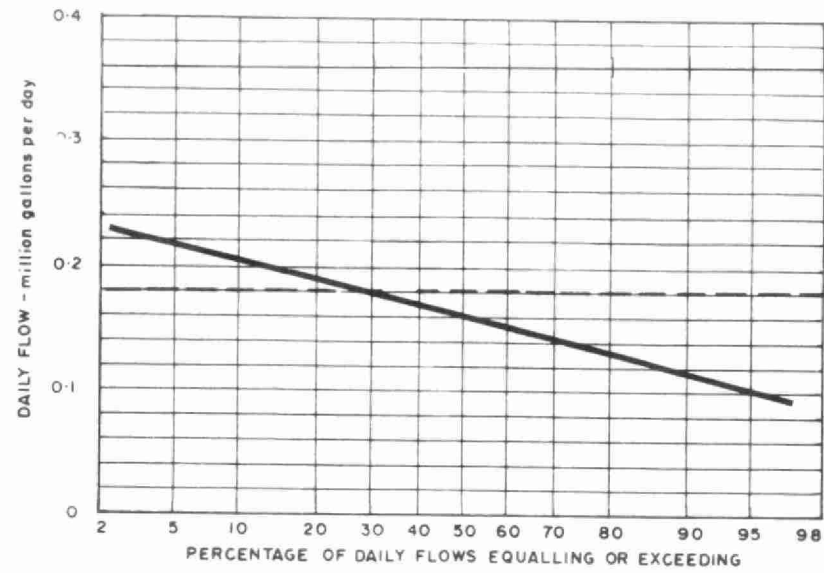
YEAR	WATER TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS
			cents per 1000 gal
1968	48.78	\$ 9,072	19
1969	47.83	11,194	23
1970	62.05*	14,463	23
1971	60.66	18,950	31
1972	70.74	23,025	33
1973	57.75	23,557	41

* Estimate

OPERATING EXPENDITURES

SALARIES AND WAGES	<u>\$15,795</u>
EMPLOYEE BENEFITS	<u>568</u>
TRANSPORTATION & COMMUNICATIONS	<u>963</u>
SERVICES	<u>801</u>
SUPPLIES AND EQUIPMENT	<u>5,430</u>
ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS	<u>0</u>
TRANSFER PAYMENTS	<u>0</u>
OTHER TRANSACTIONS	<u>0</u>
TOTAL	<u>\$23,557</u>

PROCESS DATA FLOWS



PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	TURBIDITY		COLOUR		TEMPERATURE	
							AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE ° F	MAXIMUM ° F
JAN	4.80	0.15	0.18	0.30	0.60	20	0.40		5		36	40
FEB	4.15	0.15	0.17	0.34							37	40
MAR	4.55	0.15	0.16	0.26	0.50	25	0.66		20		39	41
APR	3.59	0.12	0.16	0.22							45	52
MAY	3.46	0.11	0.12	0.17							56	60
JUNE	3.90	0.13	0.19	0.22	0.80	< 5	0.50		< 5		68	73
JULY	6.40	0.20	0.26	0.52							75	78
AUG	5.61	0.18	0.24	0.52							76	80
SEPT	5.17	0.17	0.20	0.30							69	80
OCT	6.26	0.20	0.36	0.34							59	63
NOV	4.95	0.16	0.19	0.43							46	60
DEC	4.91	0.16	0.17	0.43							40	45
TOTAL	57.75											
AVG.		0.16	MAXIMUM 0.36	MAXIMUM 0.52	0.63	< 17	0.52	MAXIMUM	< 10	MAXIMUM	54	MAXIMUM 80

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	0	0	2	2	0	4	0	5	0	86	1.8		0.7
FEB	1	1	1	0	0	3	0	22	0	70	1.7		0.7
MAR	0	0	2	1	1	4	0	24	0	88	1.9		0.6
APR	0	1	2	0	0	2	0	25	0	83	2.3		0.6
MAY	2	0	1	2	1	3	0	19	0	86	2.7		0.7
JUNE	0	0	2	0	2	2	0	26	0	118	3.0		0.7
JULY	0	0	0	1	3	2	0	10	0	159	2.5		0.8
AUG	0	0	0	3	3	3	0	23	0	120	2.1		0.8
SEPT	0	0	0	0	4	2	0	10	0	111	2.1		0.8
OCT	0	0	0	2	3	3	0	40	0	146	2.2		0.7
NOV	1	0	0	0	1	1	0	13	0	102	1.9		0.8
DEC	0	0	2	1	1	2	0	22	0	94	1.8		0.7
TOTAL	4	2	12	12	19	31	0	239	0	1263			
AVG.	78 (NOTE - Average shown is the GEOMETRIC MEAN)									3.5 pounds per day	2.1		0.7

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as CaCO_3	3	57	60	52	3	57	62	54	80 - 100
ALKALINITY in mg/l as CaCO_3	3	43	51	39	3	41	46	37	30 - 100
IRON in mg/l Fe	3	0.10	0.10	0.10	3	1.21	3.5	0.05	Less than 0.3
CHLORIDE in mg/l Cl^-	3	3	4	3	3	6	7	5	Less than 250
pH in pH units	3	7.6	7.7	7.5	3	7.4	7.6	7.2	7.0 - 8.5
TURBIDITY in FTU	3	0.63	0.80	0.50	3	0.52	0.66	0.40	Less than 1
COLOUR in apparent units	3	16	25	5	3	8	20	< 5	Less than 5

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